

AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or less characters; and 2. added matter is shown by underlining.

1. (Currently Amended) A length measurement system for measuring relative movements between first and second machine parts, said measurement system comprising a sensing head and a rule sensed by it, said sensing head being securely mountable on the first machine part and said rule being connectable with the second machine part during final assembly of the length measurement system, wherein the rule is mounted within a profiled part having two legs which is securely mountable on the second machine part during final assembly and into which the sensing head protrudes, said sensing head being prepositioned, via a removable mounting structure, and being releasably connected with said profiled part, when in a state prepared for final assembly,

wherein in the state prepared for final assembly, the mounting structure connects the two legs of the profiled part with the sensing head; and

wherein the mounting element structure comprises two spacing members which are clamped within grooves of the sensing head by the profiled part.

2. (Previously Presented) The length measurement system as claimed in Claim 1, wherein the profiled part comprises an adhesive surface by which it can be adhered to the second machine part.

3. (Previously Presented) The length measurement system as claimed in Claim 1, wherein the profiled part comprises a U-shaped profile comprising the two legs, one of said legs being mounted on the second machine part and carrying, at its interior surface, the rule, and the other of said legs embracing the sensing head in a non-contacting manner during measurement.

4. (Previously Presented) The length measurement system as claimed in Claim 1, wherein the sensing head, when having been finally assembled and after the mounting structure has been removed, protrudes into the profiled part without being supported thereon.

5. (Previously Presented) The length measurement system as claimed in Claim 4, wherein the two spacing members are each of cylindrical cross-section.

6. (Previously Presented) The length measurement system as claimed in Claim 1, wherein the profiled part comprises a reference surface aligning the rule, which reference surface is contacted by the rule in its mounted state.

7. (Previously Presented) The length measurement system as claimed in Claim 6, wherein a bracing device braces the rule in a direction toward the reference surface.

8. (Currently Amended) The length measurement system as claimed in Claim 1, wherein during measurement, the sensing head protruding into the profiled part embraces the rule mounted thereon in a ~~trilateral and~~ non-contacting manner on three sides of the rule.

9. (Currently Amended) A method of final assembly of a length measurement system as claimed in Claim 1, comprising:

for final assembly, aligning the profiled part with and mounting the profiled part on the second machine part,

mounting the sensing head securely on the first machine part in a gap-filling manner, and removing the mounting ~~element~~ structure so as to release the connection between the profiled part and the sensing head.

10. (Previously Presented) The method as claimed in Claim 9, further comprising roughly aligning the profiled part with a longitudinal axis of the relative movement and adjusting the profiled part, by means of a gauge, along said longitudinal axis, to be at a constant distance from the first machine part, and moving the first and second machine parts relative to each other so as to adjust the constant distance.

11. (Previously Presented) The method as claimed in Claim 10, further comprising adjusting a distance using the gauge, said distance resulting in a predetermined gap between the first machine part and the sensing head prior to mounting the sensing head on the first machine part.

12. (Currently Amended) The method as claimed in Claim 9, further comprising adhering at least one of the sensing head and the profiled part to the ~~respective~~ first and second machine parts, respectively.

13. (Currently Amended) A method of final assembly of a length measurement system, the length measurement system for measuring relative movements between first and second machine parts, said measurement system comprising a sensing head and a rule sensed by it, said sensing head being securely mountable on the first machine part and said rule being connectable with the second machine part during final assembly of the length measurement system, the method comprising:

mounting the rule within a profiled part that has two [[parts]] legs and which is securely mountable on the second machine part during final assembly and into which the sensing head protrudes,

prepositioning the sensing head via a removable mounting structure which includes two spacing members, and releasably connecting establishing a connection between the sensing head [[with]] and said profiled part, when the sensing head and the profiled part are in a state prepared for final assembly, which connection is releasable and maintains relative positions of the sensing head and the profiled part, by positioning the mounting structure such that clamping the two spacing members of the mounting structure connect between the two [[parts]] legs of the profiled part [[with]] and the sensing head; and clamping the two spacing members within into grooves between of the sensing head and the profiled part.

14. (Currently Amended) A method of final assembly of a length measurement system, the length measurement system for measuring relative movements between first and second machine parts, said measurement system comprising a sensing head and a rule sensed by it, said sensing head being securely mountable on the first machine part and said rule being

connectable with the second machine part during final assembly of the length measurement system, the method comprising:

mounting the rule within a profiled part having two [[parts]] legs which is securely mountable on the second machine part during final assembly and into which the sensing head protrudes,

preadjusting the sensing head such that after being finally assembled, the sensing head will protrude into the profiled part without being supported thereon;

positioning a mounting element structure having two spacing members such that, in the state prepared for final assembly, the two spacing members of the mounting element structure connect the two [[parts]] legs of the profiled part with the sensing head so as to maintain relative positions of the profiled part and the sensing head; [[and]]

clamping wherein the two spacing members within grooves are clamped between the sensing head and the profiled part and into grooves of the sensing head.

15. (Previously Presented) The method as claimed in claim 13, further comprising:

assembling the first machine part and the second machine part; and

removing the two spacing members of the mounting structure from between the sensing head and the profiled part to allow free relative movement of the sensing head and the rule without contact between the sensing head and the rule.

16. (Previously Presented) The method as claimed in claim 14, further comprising:

assembling the first machine part and the second machine part; and

removing the two spacing members of the mounting structure from between the sensing head and the profiled part to allow free relative movement of the sensing head and the rule without contact between the sensing head and the rule.